



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,125	07/23/2003	Nathaniel T. Becker	GC761-6	9520

7590 03/22/2007  
JANET KAISER CASTANEDA  
GENENCOR INTERNATIONAL, INC.  
925 PAGE MILL ROAD  
PALO ALTO, CA 94304-1013

EXAMINER
----------

HANLEY, SUSAN MARIE

ART UNIT	PAPER NUMBER
----------	--------------

1651

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/626,125

Applicant(s)

BECKER ET AL.

Examiner

Susan Hanley

Art Unit

1651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1651

### DETAILED ACTION

The reply and amendment filed 12/21/06 are acknowledged.

Claims 1 and 3-36 remain under examination.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### *Response to Arguments*

##### *Claim Rejections - 35 USC § 112*

Claims 3, 4, 12-20, 23, 30 and 36 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3, 4, 12, 17, 23, 30, 34 and 36 stand rejected as indefinite because the claimed molecular weight values lack a unit such as Daltons.

Applicant argues that the reference US 5,068,099 does not identify MW values and that the Dalton is recognized as the unit of measure of atomic mass. Applicant asserts tat the skilled artisan would recognize that the MW of the claimed polymers is Daltons and that the specification supports such an interpretation.

Applicant's arguments have been fully considered but they are not persuasive. Responding to Applicant's arguments, while the validity of the patent is not in question, it is known that Dalton is the unit for atomic mass and the specification supports the use of Daltons, the fact remains that others of skill in the art could easily interpret the MW values of the polymers as kiloDaltons, especially in view of the fact that the polymers are of high molecular weight. The difference in magnitude between Daltons and kiloDaltons is three. Given the high MW's of the claimed polymers, one could easily assume that the unit is kiloDaltons. However, this interpretation exceeds the metes and bounds of the claims.

*Claim Rejections - 35 USC § 102*

Claims 1, 3, 4, 7, 9, 12, 15 and 16 stand rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sramek (US 5,068,099).

Applicant argues that Sramek teaches the use of 1 to 10% of two polymers or copolymers and teaches away from the use of a single polymers. Applicant asserts that Sramek does not teach the use of 0.0001% to 5.0% of a polymer selected from PEO, polyacrylamide, substituted polyacrylamides and the newly claimed range is not inherent. Applicant argues that Sramek does not teach the use of enzymes. Applicant argues that Sramek is directed to lowering the rate of discharge of an aerosol dispenser without changing the average particle size of the dispensed composition and that Sramek does not teach or suggest that the compositions will have an increased DV<sub>50</sub> that suppresses misting.

Applicant's arguments have been fully considered but they are not persuasive. Responding to Applicant's argument that Sramek does not teach or suggest the newly claimed range of 0.0001% to 5.0% of any of the claimed polymers, Applicant is directed to claims 16 and 18 of the Sramek patent wherein the hair fixative polymers are present in an amount of 2% to 6%. This is a specific range that overlap the claimed range, and therefore, anticipates the instant claims. See MPEP2131.03. The hair fixative polymers are co-polymers of polyacrylamides (i.e., col. 9, lines 55-65 of Sramek), however, this disclosure meets the claimed limitations because the instant claims are drawn to "a reduced aerosol generating formulated personal care or cleaning products *comprising* ..." (emphasis added). "Comprising" is considered to be transitional open language. Therefore, it allows for the inclusion of components that are not named in the claims. Therefore, the co-polymers taught by Sramek meet the open language of the instant claims.

In response to applicant's argument that the references fail to show certain features of Applicant's invention, it is noted that the features upon which applicant relies (i.e., the inclusion of enzymes in the composition of instant claims 12, 15 and 16) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Art Unit: 1651

Responding to Applicant's argument that Sramek does not teach or suggest that the compositions will have an increased DV<sub>50</sub> that suppresses misting, this property is considered to be inherent because the disclosed reduced aerosol compositions of Sramek possess the claimed components as well as possessing the claimed particles sizes. It is noted that In re Best (195 USPQ 430) and In re Fitzgerald (205 USPQ 594) discuss the support of rejections wherein the prior art discloses subject matter which there is reason to believe inherently includes functions that are newly cited or is identical to a product instantly claimed. In such a situation the burden is shifted to the applicants to "prove that subject matter shown to be in the prior art does not possess characteristic relied on" (205 USPQ 594, second column, first full paragraph). Applicant has failed to provide sufficient proof to cause a withdrawal of the rejection.

NEW REJECTIONS BASED ON THE AMENDMENT OF 12/21/06

Claims 1, 3, 4, 6-9, 12, and 15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Lentsch et al. (US 5,364,551; "Lentsch") in light of The Merck Index (1983).

Lentsch discloses spray-on cleaners having reduced misting. The cleaners are formulated with additives that result in aerosol or mist droplets more than about 170  $\mu\text{m}$ , or more than 200  $\mu\text{m}$  (abstract). The cleaners are used to remove soils from counters, floors, walls and cooking units such as ovens (col. 1, lines 5-15). The additive that is responsible for increasing the size of the aerosol droplet is a thickener or viscosity modifier including polyacrylamide thickeners or xanthan compositions (col. 7, lines 66-67). A preferred xanthan gum thickener is one of several that goes under the trade names of KELTROL, KELZAN, etc. (col. 8, lines 1-30). Lentsch teaches cleaning compositions comprising xanthan gum (KELZAN AR) in a concentration of 0.2%, see Ex. 2A-C.

The Merck Index discloses that xanthan gums that are marketed under the trade names of KELTROL and KELZAN have molecular weights greater than  $10^6$  (p. 1444). The disclosure by The Merck

Art Unit: 1651

Index is a supporting reference and properly used in a rejection under of U.S.C. 102 since it describes the molecular weight of xanthan gums in the range of  $10^7$ .

Claims 1, 3, 4, 6-17, 19-22, 26-30 and 33 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sidoti et al. (GB 2,339,794; "Sidoti") in light of The Merck Index (1983) and Lentsch et al. (US 5,364,551).

Sidoti discloses compositions for spot cleaning of textiles comprising a surfactant, a solvent, an enzyme and a xanthan gum as a thickening agent (abstract). The compositions exhibit low viscosity under high shear conditions, especially from spray or nozzle dispensers (p. 2, 3<sup>rd</sup> full paragraph). The enzyme is a protease (p. 5). The primary thickener is a xanthan gum in an about of 0.001% to 10% wt. or 0.01% to 8%wt., which overlaps, and therefore, anticipates the claimed range (p. 5-6). The xanthan gum is KELZAN ST or KELTROL (Tables 1 and 2). The composition can contain enzyme stabilizers such as propylene glycol (Table 1). The composition is prepared in a conventional manner by mixing the components in any order. Sidoti teaches that it may be advantageous to premix the organic solvents first at an elevated temperature before adding the remaining components (p. 7, 3<sup>rd</sup> full paragraph).

The Merck Index discloses that xanthan gums that are marketed under the trade names of KELTROL and KETROL have molecular weights greater than  $10^6$  (p. 1444). The disclosure by The Merck Index is a supporting reference and properly used in a rejection under of U.S.C. 102 since it describes the molecular weight of xanthan gums in the range of  $10^7$ .

Although Sidoti does not specifically disclose the anti-misting reduction of the xanthan gum-formulated composition compared to the non-xanthan gum-formulated composition, this property is considered to be inherent because Lentsch discloses the inherent ability of xanthan gums to reduce misting or spray products. It is noted that In re Best (195 USPQ 430) and In re Fitzgerald (205 USPQ 594) discuss the support of rejections wherein the prior art discloses subject matter which there is reason to believe inherently includes functions that are newly cited or is identical to a product instantly claimed. In

Art Unit: 1651

such a situation the burden is shifted to the applicants to "prove that subject matter shown to be in the prior art does not possess characteristic relied on" (205 USPQ 594, second column, first full paragraph).

The disclosure by Lentsch is a supporting reference and properly used in a rejection under of U.S.C. 102 since it describes the inherent ability of xanthan gums to decrease the misting of compositions.

Claims 1, 3-5, 7-18, 20-25, 28-30, 33 and 36 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Elliott et al. (US 2003/0175232; "Elliott").

Elliott disclose enzyme-containing products for personal care for use on the skin (abstract). The enzyme is a protease and can include a lipase. The enzyme is present in an amount of 0.0001% to 1%, 0.0005% to 0.5% or 0.0001% to 0.1% (paragraphs 0016-0021). In addition to osmo-protectants and other ingredients for stabilization, including propylene glycol (section 0028), the composition includes polymeric thickeners in the amount of 0.1% to 10%, 0.5% to 8%, or 1% to 5%. The molecular weight of the polymer is preferably greater than  $10^6$ . Suitable polymers are polyacrylamides, natural or synthetic gums, PVP and PVA (paragraph 0070-0071). The composition can also include silicone gums having a molecular weight of 200,000 to 4,000,000 which are present in the amount of 5% to 40%. The disclosure of 5% overlaps the claimed range for a gum additive (sections 0097-0099). The composition can be formulated as body lotions, face/body/foot creams or rinse off moisturizers (section 0164). A rinse of formulation is interpreted to mean a shower or bath gel. Elliott teaches that the composition is manufactured using any conventional technique and that aqueous and oil phases usually prepared separately before emulsification (section 0158).

This disclosure meets the limitations of instant claims because the disclosed compositions have reduced misting and comprises a polymer(s) with a molecule weight that overlaps the claimed molecular weight range, wherein the product is for personal care. Although Elliott does not specifically disclose the anti-misting reduction of the polymer-formulated composition compared to the nonpolymeric-formulated composition, this property is considered to be inherent because the disclosed reduced misting

Art Unit: 1651

compositions of Elliott possess the claimed components in the claimed amounts. It is noted that *In re Best* (195 USPQ 430) and *In re Fitzgerald* (205 USPQ 594) discuss the support of rejections wherein the prior art discloses subject matter which there is reason to believe inherently includes functions that are newly cited or is identical to a product instantly claimed. In such a situation the burden is shifted to the applicants to "prove that subject matter shown to be in the prior art does not possess characteristic relied on" (205 USPQ 594, second column, first full paragraph).

### *Claim Rejections - 35 USC § 103*

Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott et al. (US 2003/0175232; "Elliott") or Sidoti et al. (GB 2,339,794; "Sidoti") in view of Cho et al. (US 6,835,703; "Cho").

Both Elliott and Sidoti teach that the enzyme-containing compositions are prepared according to conventional methods *supra*.

Neither Elliott nor Sidoti disclose the specific method of making a enzyme/ polymer cleaning composition at 35 degrees C.

Cho discloses that proteases (col. 2, lines 59-63) and amylases (col. 5, lines 1-18) are common enzymes in enzyme-containing detergents. These enzymes are usually make up from 0.01% to about 10.0% of the weight of the detergent (col. 2, lines 55-58). Propylene glycol is used as an enzyme stabilizer (col. 3, lines 41-45). Cho discloses methods of preparing enzyme-containing detergents. Cho advises that polymers that comprise thickeners should be dispersed in a non-aqueous ingredient prior to combining it with an enzyme to ensure better dispersal and mixing with the enzyme (col. 8, lines 59-64). A thickener is a high molecular weight polymer such as Carbopol ® (col. 5, lines 19-31). Cho discloses that the mixing of the composition can be done at a temperature of about 30 degrees or less (col. 13, lines 14-17). This disclosure meets the limitations of "at about 35 degrees C" in instant claim 32 because, in the absence of a definition, "about" is interpreted to mean  $\pm 5$  degrees.



Art Unit: 1651

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the order of adding the high molecular weight polymer to the enzyme in the preparation methods of Elliott or Sidoti. The ordinary artisan would have been motivated to dissolve a very high molecular weight polymer disclosed by Elliott or Sidoti in a non-aqueous solvent before combining it with the enzyme because very high molecular weight polymers, like thickeners, are viscous and do not mix easily. Hence the ordinary artisan would have realized the advantage of dispersing a viscous polymer in a non-aqueous solvent to enhance mixing with an enzyme in an aqueous composition. The ordinary artisan would have had a reasonable expectation that the dispersal of the very high molecular weight polymers taught by Elliott or Sidoti in a non-aqueous solvent would be successful because said polymers are, like thickeners, viscous materials.

The selection of the temperature, like the order of mixing for enzyme/polymer mixtures, as clearly pointed out by Elliott and Sidoti, would have been a routine matter of selection by the ordinary artisan.

Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sidoti et al. (GB 2,339,794; "Sidoti") in view of Ferguson et al. (1992; "Ferguson").

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lentsch et al. (US 5,364,551; "Lentsch") in view of Ferguson et al. (1992; "Ferguson").

The disclosures by Sidoti and Lentsch are directed to reducing the misting of aerosol cleaners by adding a high molecular weight xanthan gum to act as a thickener.

Neither Sidoti nor Lentsch teach the reduction of misting in an aerosol cleaner by using polyethylene oxide (PEO) as a thickener.

Ferguson discloses that the addition of a high molecular weight polymer to an aerosol composition increases the viscosity of said composition and the diameter of droplets therein based on

Art Unit: 1651

molecular weight and concentration of the high molecular weight polymer. PEO is one such high molecular weight polymer that affects viscosity of aerosol compositions (abstract, page 47-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute PEO for xanthan gum in the cleaning compositions of Sidoti or Lentsch. The ordinary artisan would have been motivated to do so because the function of xanthan gum and PEO are the same, that is, to increase the viscosity of aerosol compositions in order to decrease misting. Hence, the ordinary artisan would have realized that the choice of one thickener compared to another would have been a routine matter of selection by the ordinary artisan.

No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

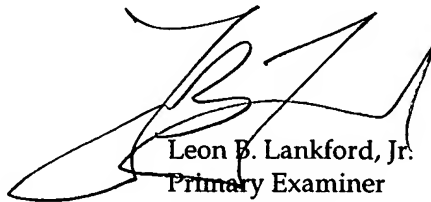
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Hanley whose telephone number is 571-272-2508. The examiner can normally be reached on M-F 9:00-5:30.

Art Unit: 1651

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Susan Hanley  
Patent Examiner  
AU 1651



Leon B. Lankford, Jr.  
Primary Examiner  
Art Unit 1651